

Abstract

A system and method provide for recipient-initiated automatic repair of IP multicast sessions. A multicast application on a receiver issues a request to join an IP multicast session "X". A translator/decryption module (TDM) on the receiver intercepts this request and sends it to a controller on a repair server. The controller sends a request to a subscription server to determine if this user has subscribed to the repair service. The controller receives a positive response from the subscription server and determines whether a repair/encryption module exists for this multicast session. If it does not, then the controller selects an IP multicast address, port number and decryption key for a new IP multicast session "Y". This information is returned to the TDM. The controller creates a repair/encryption module (REM) and provides the IP multicast address and port number for the new IP multicast session "Y" and an encryption key to the REM. Then, the TDM stores the session "Y" IP multicast address, port number and decryption key. The REM reads packets from IP multicast session "X" and checks if there are any missing packets. If there are missing packets, it requests one or more retransmit servers for session "X" to obtain the missing packets. The repair/encryption module encrypts the packets and writes them to IP multicast session "Y". The packets for IP multicast session "Y" are processed by the IP stack on the receiver, and are then sent to the translator/decryption module (TDM). The TDM decrypts these packets, modifies the destination IP address and port number from the values for session "Y" to those for session "X". The packets are then sent to the application. The application then presents the message contained in the packets to the subscriber of the IP multicast "X".